

## PROGRAM DIRECTIVE

Program Directive A-12  
Issued January 1, 1979  
Revised June 6, 2000

**SUBJECT:** Bulk Oxygen Systems

**AFFECTED CODES/  
DIRECTIVES:** OAR 437-02-1910.104

**PURPOSE:** To establish guidelines on citing a violation of 1910.104.

**BACKGROUND:** A. Inquiries have been received regarding enforcement of 1910.104(b)(3)(iii) which prescribes the following minimum distance between bulk oxygen storage container and fire resistive structure:

The minimum distance shall be twenty-five feet from any fire resistive exterior building wall or sprinklered building of other types of construction, but in no case shall the distance from the bulk tank to the building be less than one half the height of an adjacent side wall whichever is the greater.

B. These inquiries noted the source document for 1910.104 was the National Fire Protection Association (NFPA) Standard No. 566-1965, "Installation of Bulk Oxygen Systems." This Standard was redesignated as NFPA No. 50, 1990 edition, which states in paragraph 2-2.1.2:

"Not less than 1 foot (or other distance to permit system maintenance) [shall be maintained] from buildings other than wood frame construction.

[ ] added

C. 1910.104(b)(3)(xviii) states in part "the 25-foot distance requirement between oxygen storage systems and structures with fire-resistive exterior walls or sprinklered buildings or other construction does not apply where protective structures, such as firewalls of adequate height to safeguard the oxygen storage systems, are located between the bulk oxygen storage installation and the exposure." In such cases, the bulk oxygen storage

installations may be a minimum distance of 1 foot from the firewall.

- D. A "firewall" has been defined by various sources. The State Building Code, 1991 Edition, Chapter 43, Table 43-B gives the fire-resistive periods for various wall assemblies, and is the basis for determining what is a four hour fire wall.

When a wall is free standing it must be designed to withstand any forces that may be applied to it as set forth in Chapter 23 of the Building Code.

- E. The 1976 Fire Protection Handbook, 14th Edition, by NFPA, on page 6-22 defines a firewall as:

"A wall erected to prevent the spread of fire. To be effective, firewalls must have sufficient fire resistance to withstand the effects of the most severe fire that might be expected to occur in the building and must provide a complete barrier to the spread of fire. Any openings in a firewall must be suitably protected."

- F. 1910.106(e)(3)(iii), "Flammable and Combustible Liquids; Industrial Plants; Unit Physical Operations; Chemical Processes;" establishes that a firewall may have a 2-hour fire resistance rating.

**ACTION:**

- A. There appears to be a distinction between structures or walls that are fire resistive (in which case 1910.104 (b)(3)(iii) requires a distance of 25 feet between the structure or wall and bulk oxygen storage containers) and those that are firewalls (in which case the exception in OAR 1910.104(b)(3)(xviii) allows a minimum distance of 1 foot from the container. For the purpose of determining whether a citation is appropriate a fire resistive wall shall be deemed to be one made of fire resistive materials. On the other hand, a firewall within the exception of 1910.104(b)(3)(xviii) must be:

1. At least a wall of noncombustible material, self-supporting and with a fire resistance rating of not less than 2 hours, and constructed in accordance with the State Building Code.

The wall may be the exterior wall of the structure exposed to the bulk oxygen storage installation and;

2. Any openings in the wall must be properly protected and;
3. The wall be of adequate height to safeguard the oxygen storage systems.

- B. Before citations are issued under 1910.104(b)(3)(iii) for violation of the 25-foot requirements, the compliance officer shall assure that the wall or structure does not come within the exception provided for in 1910.104(b)(3)(xviii) in which case only the 1 foot distance requirement is applicable.

**EFFECTIVE**

**DATE:**

This directive is effective immediately and will remain in effect until cancelled or superseded.